wherein said second member is composed of a material that absorbs a first part of said electromagnetic waves and allows a second part of said electromagnetic waves to pass therethrough; and

said second part of said electromagnetic waves passing through said second member irradiating said thermosetting resin.

2.(Canceled) The bonding method according to claim 1, wherein at least some of the radiant heat generated by said second member as a result of said absorption of said first part of said electromagnetic waves is conducted to said thermosetting resin to assist in heating said thermosetting resin.

3.(Canceled) The bonding method according to claim 1 wherein said second part of said electromagnetic waves that pass through said second member to irradiate said thermosetting resin result in the generation of radiant heat by said thermosetting resin.

4.(Canceled) The bonding method according to claim 1, wherein said electromagnetic waves are near infrared rays.

5.(Canceled) The bonding method according to claim 4 wherein said near infrared rays have wavelengths within the range of about 800 nm to about 1200 nm.

6.(Canceled) The bonding method according to claim 1, wherein said electromagnetic waves irradiate said thermosetting resin after said first member is heated to a specified temperature.

7.(Canceled) The bonding method of claim 1 further including cooling the bonded first and second members and said thermosetting resin, said cooling including the step of subheating said first member.

8.(Canceled) A bonding method for bonding first and second members to one another, said bonding method comprising the steps of:

positioning thermosetting resin between said first member and said second member;

heating said thermosetting resin to a curing temperature;

cooling said heated thermosetting resin; and

executing a temperature difference suppression procedure during said cooling of said thermosetting resin to effectively reduce the temperature difference between said first and second member.

9.(Canceled) The bonding method according to claim 8, wherein said executing of said temperature difference suppression procedure comprises suppressing cooling of a selected one of said first member and said second member during said cooling step.

10.(Canceled) The bonding method according to claim 9, wherein said executing of said temperature difference suppression procedure comprises accelerating cooling of the other of said first member and said second member during said cooling step.

11.(Canceled) The bonding method according to claim 8, wherein the temperatures of said first member and/or said second member are determined; and

said executing of said temperature difference suppression procedure is based on the determined temperatures of said first member and/or said second member.

12.(Canceled) The bonding method according to claim 8, wherein said cooling step accelerates cooling of the member having the larger thermal capacity of said first member and said second member, and said cooling step suppresses cooling of the member having the smaller thermal capacity of said first member and said second member.

13.(Canceled) The bonding method according to claim 8, wherein said first member and said second member are cooled to room temperature during said cooling step.

14.(Canceled) A bonding apparatus for performing bonding of a first member to a second member using a thermosetting resin adhesive that is heated and cured during said bonding, said bonding apparatus comprising:

a support member adapted for having said second member positioned thereon;

a light source that generates near infrared rays for heating said thermosetting resin adhesive, said near infrared rays passing through said support member;

a heater for heating said first member; and

a cooling system for cooling said first member and said second member.

15.(Canceled) The bonding apparatus according to claim 14, wherein said near infrared rays irradiate both said thermosetting resin adhesive and said second member.

16.(Canceled) The bonding apparatus according to claim 14, further including a pressure member for applying pressure onto said first member during said irradiating of said thermosetting resin adhesive and said second member.

17.(Canceled) The bonding apparatus according to claim 14 further including cooling members for directing cooling medium onto said second member during cooling thereof.

18.(Canceled) The bonding apparatus according to claim 14, wherein said heater is positioned on said first member.

19.(Canceled) The bonding apparatus according to claim 18 further including a pressure member for applying pressure onto said first member and a buffer member located between said pressure member and said first member.

20.(Canceled) A bonding method for bonding a silicon chip and a glass substrate using thermosetting resin, said bonding method comprising the steps of:

positioning thermosetting resin between said silicon chip and said glass substrate;

heating said silicon chip to a specified temperature;

irradiating near infrared rays onto said glass substrate to heat said glass substrate, a part of said near infrared rays passing through said glass substrate for irradiating said thermosetting resin, said thermosetting resin being heated by said part of said near infrared rays and the heat generated by said glass substrate as a result of said near infrared rays irradiating said glass substrate; and

cooling said heated silicon chip, said thermosetting resin and said glass substrate so as to assure an acceptable temperature difference between said silicon chip and said glass substrate during said cooling.

21.(Canceled) The bonding method according to claim 20, wherein cooling of said silicon chip is suppressed and cooling of said glass substrate is accelerated during said cooling step.

Please enter new claims 22 - 41 as follows:

--22.(New) A method of forming a bonded assembly, said method comprising the steps of:

positioning an IC chip adjacent to a substrate with a thermosetting adhesive between said IC chip and said substrate to adhere said IC chip to said substrate, said substrate comprising an epoxy resin reinforced with fiberglass; and

irradiating said substrate with near infrared light toward said IC chip such that some energy of said light is absorbed by said substrate and some energy of said light passes through said substrate to said adhesive to substantially cure said adhesive.

23.(New) A method as set forth in claim 22 wherein said substrate comprises FR4 material.

24.(New) A method as set forth in claim 22 wherein said near infrared light has wavelength in the range 800 nm - 1200 nm.

25.(New) A method as set forth in claim 22 further comprising the step of halting the irradiating step after said adhesive is heated to a predetermined, curing temperature, and after the halting step, cooling said assembly to substantially room temperature and applying pressure on said IC chip toward said substrate during substantially the entirety of said cooling step.

26.(New) A method as set forth in claim 22 wherein said adhesive is ACF.

27.(New) A method as set forth in claim 22 further comprising the step of using a quartz infrared halogen lamp to perform the step of irradiating said substrate.

28.(New) A method as set forth in claim 22 wherein said substrate is FR4 dielectric material, and said IC chip is silicon based.

29.(New) A method of forming a bonded assembly, said method comprising the steps of:

positioning an IC chip adjacent to a substrate with a thermosetting adhesive between said IC chip and said substrate to adhere said IC chip to said substrate, said substrate comprising an epoxy resin reinforced with fiberglass; and

irradiating said substrate with near infrared light toward said IC chip such that some energy of said light is absorbed by said substrate and some energy of said light passes through said substrate to said adhesive to at least partially cure said adhesive.

30.(New) A method as set forth in claim 29 wherein said substrate comprises FR4 material.

31.(New) A method as set forth in claim 29 wherein said near infrared light has wavelength in the range 800 nm - 1200 nm.

32.(New) A method as set forth in claim 29 further comprising the step of halting the irradiating step after said adhesive is heated to a predetermined, curing temperature, and after the halting step, cooling said assembly to substantially room temperature and applying pressure on said IC chip toward said substrate during substantially the entirety of said cooling step.

33.(New) A method as set forth in claim 29 wherein said adhesive is ACF.

34.(New) A method as set forth in claim 29 further comprising the step of using a quartz infrared halogen lamp to perform the step of irradiating said substrate.

35.(New) A method as set forth in claim 29 wherein said substrate is FR4 dielectric material, and said IC chip is silicon based.

36.(New) A method of forming a bonded assembly, said method comprising the steps of:

positioning an IC chip adjacent to a substrate with a thermosetting adhesive between said IC chip and said substrate to adhere said IC chip to said substrate, said substrate comprising an epoxy resin reinforced with fiberglass; and

irradiating said substrate with near infrared light toward said IC chip such that some of said light is absorbed by said substrate and some of said light passes through said substrate to said adhesive to substantially cure said adhesive.

37.(New) A method as set forth in claim 36 wherein said substrate comprises FR4 material.

38.(New) A method as set forth in claim 36 wherein said near infrared light has wavelength in the range 800 nm - 1200 nm.

39.(New) A method as set forth in claim 36 further comprising the step of halting the irradiating step after said adhesive is heated to a predetermined, curing temperature, and after the halting step, cooling said assembly to substantially room temperature and applying pressure on said IC chip toward said substrate during substantially the entirety of said cooling step.

40.(New) A method as set forth in claim 36 wherein said adhesive is ACF.

41.(New) A method as set forth in claim 36 further comprising the step of using a quartz infrared halogen lamp to perform the step of irradiating said substrate.

method as set forth in claim 36 wherein said substrate is FR4 dielectric material, and said IC chip is silicon based.--